SynapSense® Wireless Mesh (WM) Gateway for Light Industrial Environments

specifications

The WM gateway shall be a wireless network-to-Ethernet bridge which shall collect and consolidate data captured from wireless mesh nodes or metered hardware and then send data to remote server. The hardware firmware shall be optimized for utilization in heavily concentrated Wi-Fi environments commonly found in industrial applications.

technical information

Dimensions:	139mm L x 133.35mm W x 41.402mm H (5.5" L x 5.25" W x 1.63" H)
Maximum weight:	0.2268Kg (8 oz.)
Mounting:	Cable tie or optional wireless mesh gateway mounting kit

Wireless Mesh Gateway	
Gateway:	100-1156-001IA
Gateway mounting kit:	IOT-A1GMT

Wireless Mesh Nodes	
ThermaNode™ EZ (measures temperature):	99-0944-001IA
ThermaNode™ EZ-H (measures temperature and humidity):	99-0944-010IA
Pressure Node™:	99-0331-001IA

key features and benefits

Data aggregation	Collects, consolidates, and relays data from and manages the wireless mesh node network
Wireless mesh network	Serves as the consolidation point for node data within an innovative wireless mesh network made up of multiple nodes that "talk" to each other to share environmental monitoring data
Simple deployment	Allows for simple placement near existing AC outlets and Ethernet ports to avoid complex cabling installations, minimizing time, labor, and material costs
Auto adjusting receiver sensitivity	Adjusts receiver sensitivity to compensate for powerful ambient radio noise from other devices like Wi-Fi, enabling radios to communicate with each other in harsh RF environments
Channel black-listing	Identifies and avoids radio frequencies that have high levels of RF noise, speeding up data transfer and conserving battery life
Smart-over-the-air (SMOTA) firmware update	Uses wireless network to transmit hardware firmware updates directly to node without need for physical intervention for simplicity of updates*
Data retention	Designed to buffer, retain and resend data in the event that the Ethernet connection is lost, thereby increasing the resiliency of the network by avoiding loss of critical data
IPv6	Supports IPv4 and IPv6
128-bit and 256-bit network encryption	Encrypts data over the network using a unique 256-bit or 128-bit key to ensure security
Single IP address scalability	Allows interconnect ability of up to 400 nodes on a single wireless mesh network gateway thru one single IP address, reducing the need for separate IP ports, IP capital costs, and management overhead

* Performing a firmware upgrade is a specialized process which must involve technical support or a qualified reseller.

applications

The SynapSense® Wireless Mesh Gateway is part of the Panduit® SynapSense® 2.4 GHz Wireless Monitoring System which provides a low-cost, easy-to-deploy solution to gather, communicate, and visualize environmental data within your light industrial environment for improved reliability, product quality and energy optimization.

The gateway collects node data from wireless sensors via a wireless mesh network, processes the raw data and delivers it via the Ethernet to the server.

SynapSense® Wireless Mesh Gateway can be mounted with cable ties, adhesive, or with the gateway mounting kit. Gateways require Ethernet and external power and should be located near both AC outlets and an Ethernet port. Use the Gateway Shelf for easy mounting to a wall or post.

Specifications

Specifications	Description
Power Requirements	• 5.0 VDC (±5%) via supplied power adapter requiring 90-264 VAC (50~60Hz) • Power consumption 5.4 watts

Regulatory Information	• FCC Part 15, Class A, Subpart C, 15.247
	• Industry Canada
	• Provisions of Article 38-24, Paragraph 1 of the Radio Law in Japan
	
	  Gateway ⊜ Ⓡ 003-140167
	
	  ThermaNode™ EZ and EZ-H ⊜ Ⓡ 003-140166

Environmental	• 32°F to 140°F (0°C to 60°C), • 5% to 90% no-condensing humidity • Indoor use only
Radio	IEEE 802.15.4 compliant radio
RF Data Range	50 feet (15m); Max 260 feet (80m) open air, line of sight
Software Requirements	Requires SynapSoft® Version 6.8 or higher
Browser	Windows Internet Explorer 9.x or higher*, Mozilla Firefox** 11.x or higher, or Google Chrome 17*** or higher
Ethernet	10baseT – 100baseT

*Microsoft, Windows, and Internet Explorer are all registered trademarks of Microsoft Corporation in the United States and/or other countries.

** Mozilla and Firefox are registered trademarks of Mozilla Foundation.

*** Google Chrome is a trademark of Google, Inc.

Dimensions

3.900 [99.06]   5.500 [139.7]

1.624 [41.25]   1.753 [44.53]

5.250 [133.35]

5.453 [138.50]

5.619 [142.72]
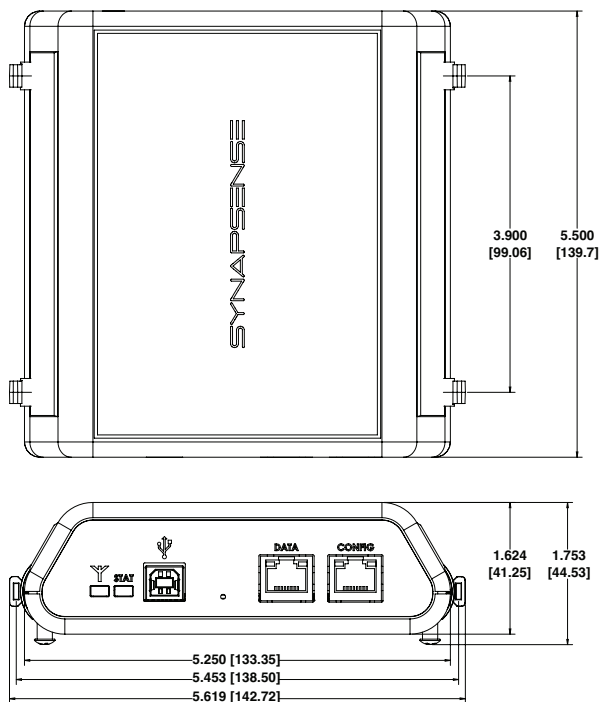
For information on SynapSense® Cooling Optimization for Data Centers, visit: www.panduit.com/coolingoptimization

Dimensions are in inches. [Dimensions in brackets are metric.]

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